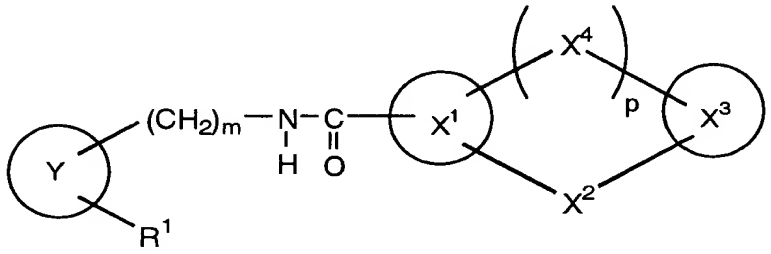
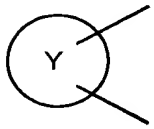
CLAIMS

1. A pharmaceutical composition having a dual antagonistic activity against PGD_2/TXA_2 receptors which comprises a compound of the formula (I):



(I)

wherein



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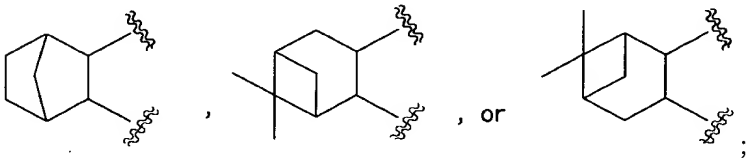


;

R^1 is $-CH_2-CH=CH-CH_2-CH_2-CH_2-COOR^2$ or $-CH=CH-CH_2-CH_2-CH_2-COOR^2$;

R^2 is hydrogen or alkyl;

m is 0 or 1;

p is 0 or 1, provided that when p = 0, X^1 is not bonded to X^3 via X^4;

X^1 and X^3 each is independently optionally substituted aryl or optionally substituted heteroaryl;

X^2 is a bond, $-CH_2-$, $-CH_2-CH_2-$, $-C(=O)-$, $-O-$, $-S-$, $-SO-$, $-SO_2-$, $-NH-$, $-N(CH_3)-$, $-C(=N-O-CH_3)-$, $-N=N-$, $-CH=CH-$, $-(C=O)-NH-$, $-NH-(C=O)-$, $-CH_2-NH-$, $-NH-CH_2-$, $-CH_2-O-$, $-O-CH_2-$, $-CH_2-S-$, $-S-CH_2-$, $-CH_2-SO_2-$, $-SO_2-CH_2-$, $-SO_2-NH-$ or $-NH-SO_2-$;

X^4 is $-CH_2-$, $-CH_2-CH_2-$, $-C(=O)-$, $-SO-$, $-SO_2-$, $-(C=O)-NH-$, $-NH-(C=O)-$, $-CH_2-$

NH-, -NH-CH_2-, -CH_2-O-, -O-CH_2-, -CH_2-S-, -S-CH_2-, -CH_2-SO_2-, -SO_2-CH_2-, -SO_2-NH- or -NH-SO_2-, a prodrug, a pharmaceutically acceptable salt or a hydrate thereof.

2. The pharmaceutical composition having a dual antagonistic activity against PGD_2/TXA_2 receptors according to claim 1 wherein at least one of X^1 and X^3 is optionally substituted heteroaryl.

3. The pharmaceutical composition having a dual antagonistic activity against PGD_2/TXA_2 receptors according to claim 1 or 2 wherein R^1 is -CH_2-CH=CH-CH_2-CH_2-CH_2-COOH, m is 0 and p is 0.

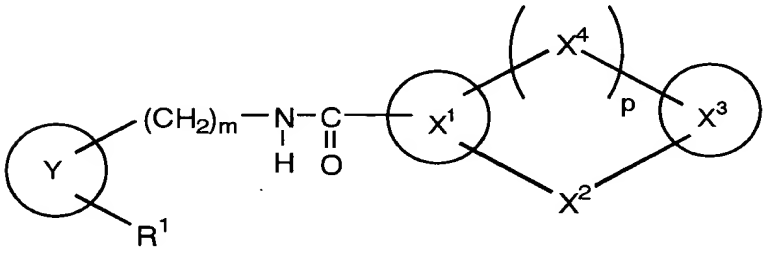
4. The pharmaceutical composition having a dual antagonistic activity against PGD_2/TXA_2 receptors according to any one of claims 1 to 3 which is used for asthma.

5. The pharmaceutical composition having a dual antagonistic activity against PGD_2/TXA_2 receptors according to any one of claims 1 to 3 which is used for nasal blockage.

6. Use of the compound according to any one of claims 1 to 3 for manufacturing a pharmaceutical composition for asthma or nasal blockage.

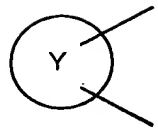
7. A method for treating asthma or nasal blockage which comprises administering the compound according to any one of claims 1 to 3.

8. A compound of the formula (I):



(I)

wherein



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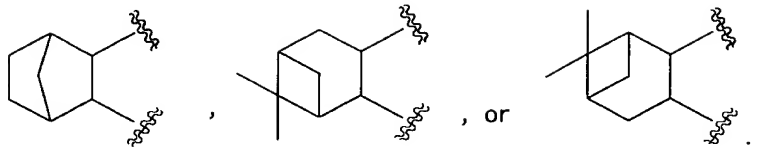


;

R^1 is $-CH_2-CH=CH-CH_2-CH_2-CH_2-COOR^2$ or $-CH=CH-CH_2-CH_2-CH_2-COOR^2$;

R^2 is hydrogen or alkyl;

m is 0 or 1;

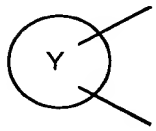
p is 0 or 1, provided that when p = 0, X^1 is not bonded to X^3 via X^4;

X^1 and X^3 each is independently optionally substituted aryl or optionally substituted heteroaryl;

X^2 is a bond, $-CH_2-$, $-CH_2-CH_2-$, $-C(=O)-$, $-O-$, $-S-$, $-SO-$, $-SO_2-$, $-NH-$, $-N(CH_3)-$, $-C(=N-O-CH_3)-$, $-N=N-$, $-CH=CH-$, $-(C=O)-NH-$, $-NH-(C=O)-$, $-CH_2-NH-$, $-NH-CH_2-$, $-CH_2-O-$, $-O-CH_2-$, $-CH_2-S-$, $-S-CH_2-$, $-CH_2-SO_2-$, $-SO_2-CH_2-$, $-SO_2-NH-$ or $-NH-SO_2-$;

X^4 is $-CH_2-$, $-CH_2-CH_2-$, $-C(=O)-$, $-SO-$, $-SO_2-$, $-(C=O)-NH-$, $-NH-(C=O)-$, $-CH_2-NH-$, $-NH-CH_2-$, $-CH_2-O-$, $-O-CH_2-$, $-CH_2-S-$, $-S-CH_2-$, $-CH_2-SO_2-$, $-SO_2-CH_2-$, $-SO_2-NH-$ or $-NH-SO_2-$;

provided that when



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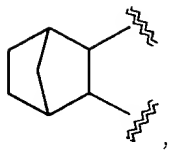
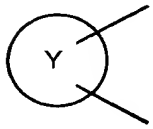


a compound wherein R^1 is $-CH_2-CH=CH-CH_2-CH_2-CH_2-COOR^2$, R^2 is hydrogen or methyl, m is 0, p is 0, X^1 is phenyl optionally substituted with methoxy, X^2 is a bond, -O-, $-CH_2-$, -C(=O)-NH-, -S- or -N=N-, and X^3 is phenyl optionally substituted with hydroxy, acetoxy or methoxy, and a compound wherein R^1 is $-CH_2-CH=CH-CH_2-CH_2-CH_2-COOH$, m is 1, p is 0, X^1 is phenyl, X^2 is -N=N-, and X^3 is phenyl, are excluded, and

when



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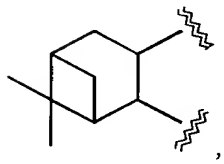

R^1 is $-CH_2-CH=CH-CH_2-CH_2-CH_2-COOR^2$, R^2 is hydrogen or methyl, m is 0, and p is 0, a compound wherein X^1 is phenyl optionally substituted with methyl or methoxy, X^2 is a bond, $-CH_2-CH_2-$, -C(=O)-, -NH-, -O-, -S-, -SO-, $-SO_2-$, -CH=CH-, -N=N-, -C(=O)-NH- or -NH-C(=O)-, and X^3 is phenyl optionally substituted with methyl, hydroxy, acetoxy, methoxy, ethoxy, isopropoxy, dimethylamino, hydroxymethyl, methoxymethyl or carboxy, a compound wherein X^1 is phenyl, X^2 is a bond, $-CH_2-$ or -CH=CH-, and X^3 is imidazolyl, thienyl, pyridyl or tetrazolyl optionally substituted with methyl or phenyl, and a compound wherein X^1 is benzothienyl, isoxazolyl or thienyl optionally substituted with methyl, X^2 is a bond or -S-, and X^3 is phenyl

optionally substituted with methoxy or methyl, are excluded, a prodrug, a pharmaceutically acceptable salt, a hydrate thereof.

9. The compound according to claim 8 wherein at least one of X^1 and X^3 is optionally substituted heteroaryl, the prodrug, the pharmaceutically acceptable salt, the hydrate thereof.

10. The compound according to claim 8 wherein X^1 and X^3 each is independently optionally substituted heteroaryl, the prodrug, the pharmaceutically acceptable salt, the hydrate thereof.

11. The compound according to claim 8 wherein at least one of X^1 and X^3 is optionally substituted thienyl or optionally substituted benzothienyl, the prodrug, the pharmaceutically acceptable salt, the hydrate thereof.

12. The compound according to any one of claims 8 to 11 wherein X^2 is a bond, $-CH_2-$, -S-, $-SO_2-$, $-CH_2-O-$, $-O-CH_2-$, $-CH_2-S-$ or $-S-CH_2-$, the prodrug, the pharmaceutically acceptable salt, the hydrate thereof.

13. The compound according to any one of claims 8 to 12 wherein R^1 is $-CH_2-CH=CH-CH_2-CH_2-CH_2-COOH$, m is 0, and p is 0, the prodrug, the pharmaceutically acceptable salt, the hydrate thereof.

14. A pharmaceutical composition which comprises a compound according to any one of claims 8 to 13.

15. A pharmaceutical composition having a dual antagonistic activity against PGD_2/TXA_2 receptors which comprises a compound according to any one of claims 8 to 13.

16. The pharmaceutical composition comprising a compound according to claim 14 or 15, which is used for asthma.

17. The pharmaceutical composition comprising a compound according to claim 14 or 15, which is used for nasal blockage.